

SPAWAR





- SPAWAR -

**Realizing
Network Centric Warfare and Beyond**

**National Defense Industrial Association
6 February 2002**

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Director, Command & Control Department
SPAWAR Systems Center Charleston**

- **Organizational Overview**
- **Short Term Challenges**
 - **NMCI & IT-21**
 - **Web-enabled Navy**
- **Long Term Needs**
 - **Spiral Technology Development**
 - **NFN**
- **Transformation to FORCEnet**



A Little Background...

The Space & Naval Warfare Systems Command

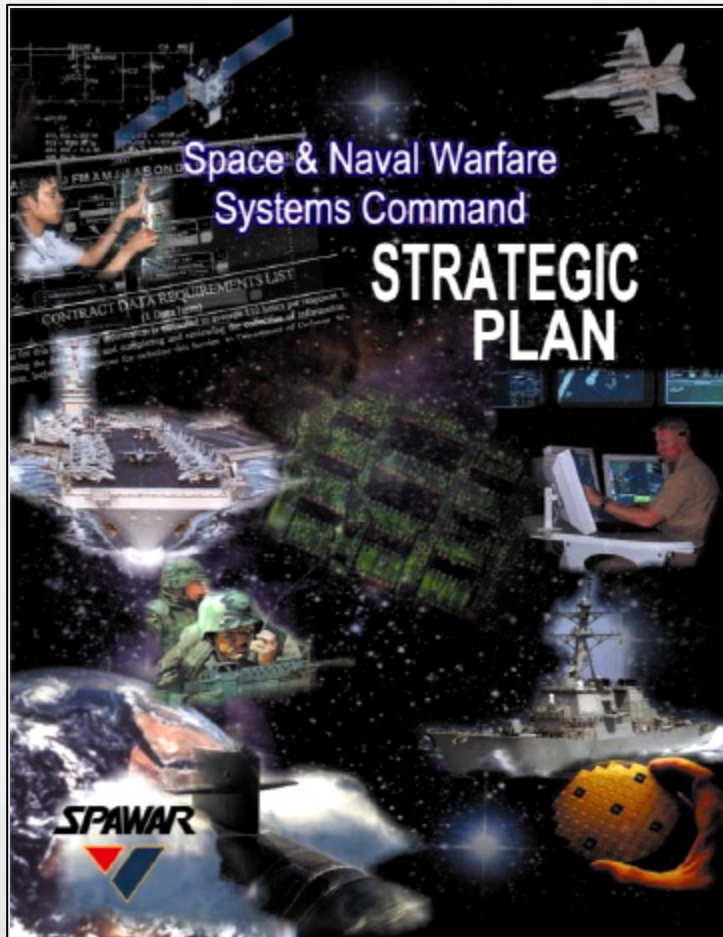
- One of the Navy's three major acquisition commands



- 7,500 military & civilian employees worldwide
- \$4.5 Billion Budget



SPAWAR Mission



Mission:
We enable
KNOWLEDGE SUPERIORITY
to the warfighter through the
DEVELOPMENT,
ACQUISITION,
and
LIFE CYCLE SUPPORT
of effective, capable and
integrated C4ISR, IT,
and Space systems.

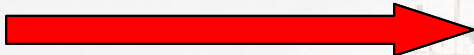


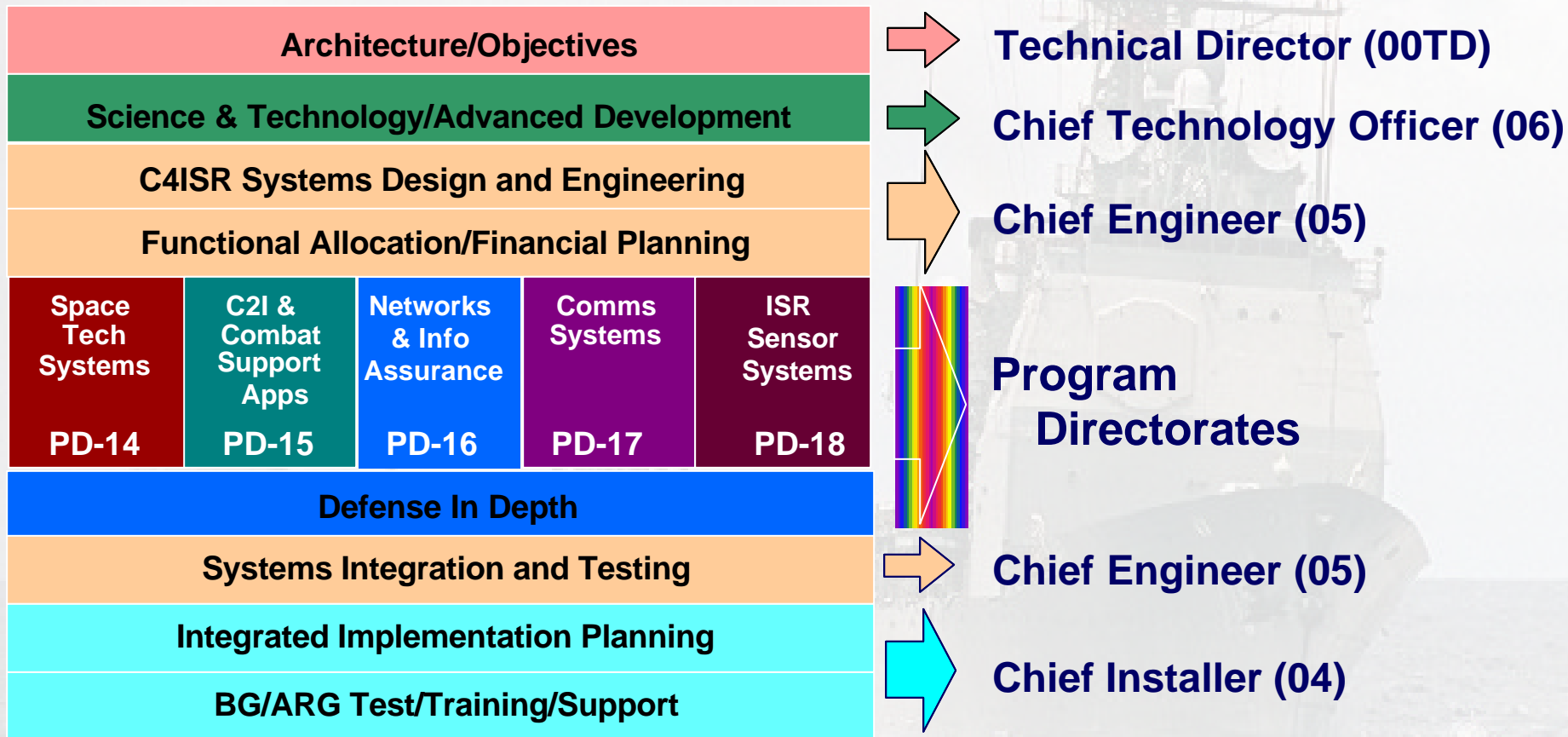
SPAWAR Corporation





Functions drive Organization

Function  **Organization**



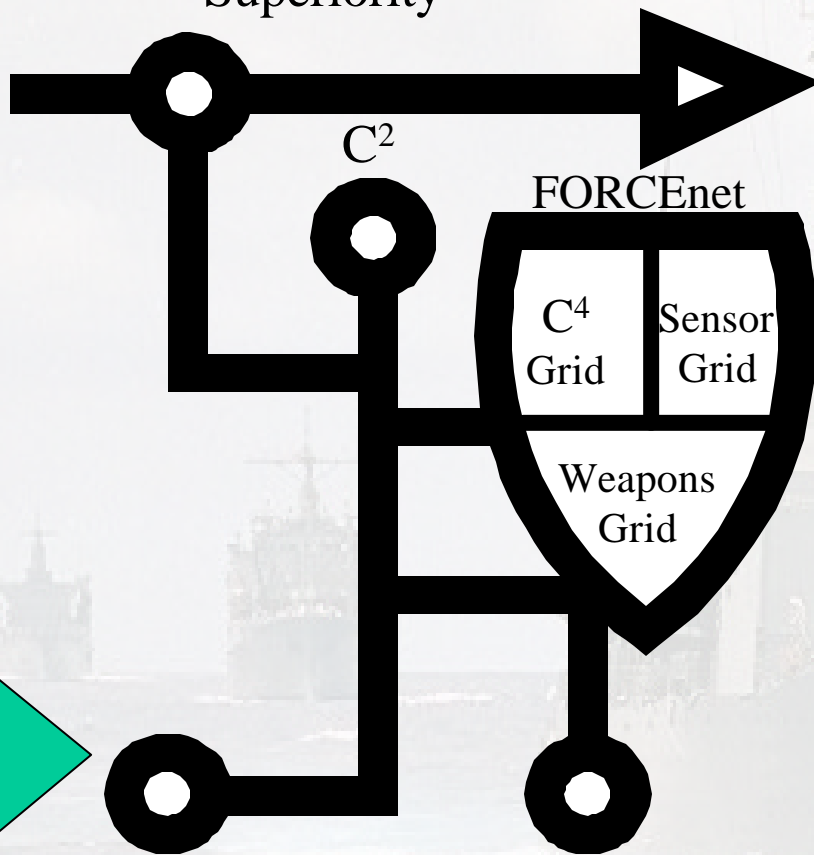


The Customer-The Enabled Warfighter



Acquisition by
Adaptation
“Saving Time &
Money”

Information & Knowledge
Superiority



Reach-Back to
Shore-Based Resources

Aligning to the Future - Achieving Knowledge Superiority

**Current
Readiness**

***Future
Readiness***

INFRASTRUCTURE

CONTENT

NMCI

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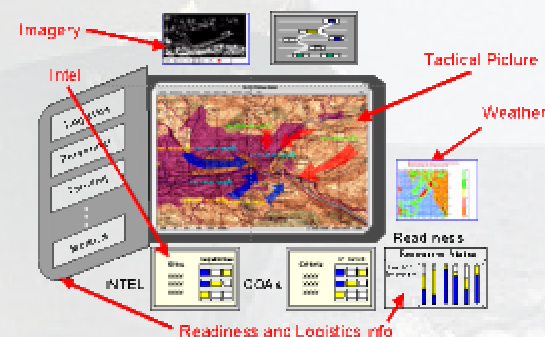
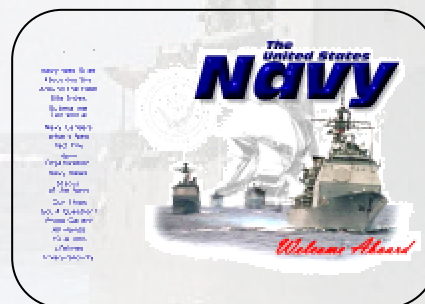
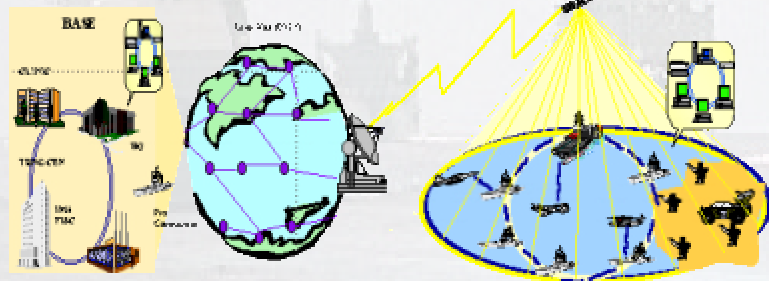
IT-21

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**Web Enabled
Content**

IR

FORCEnet



HORIZONTAL INTEGRATION

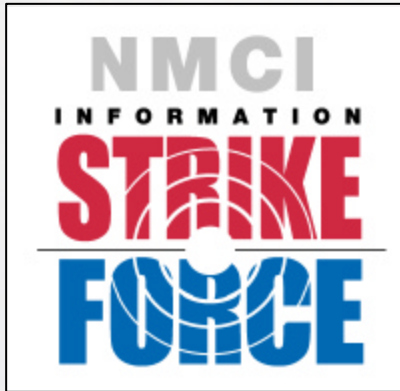


Agenda

- Organizational Overview
- **Short Term Challenges**
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Navy / Marine Corps Intranet



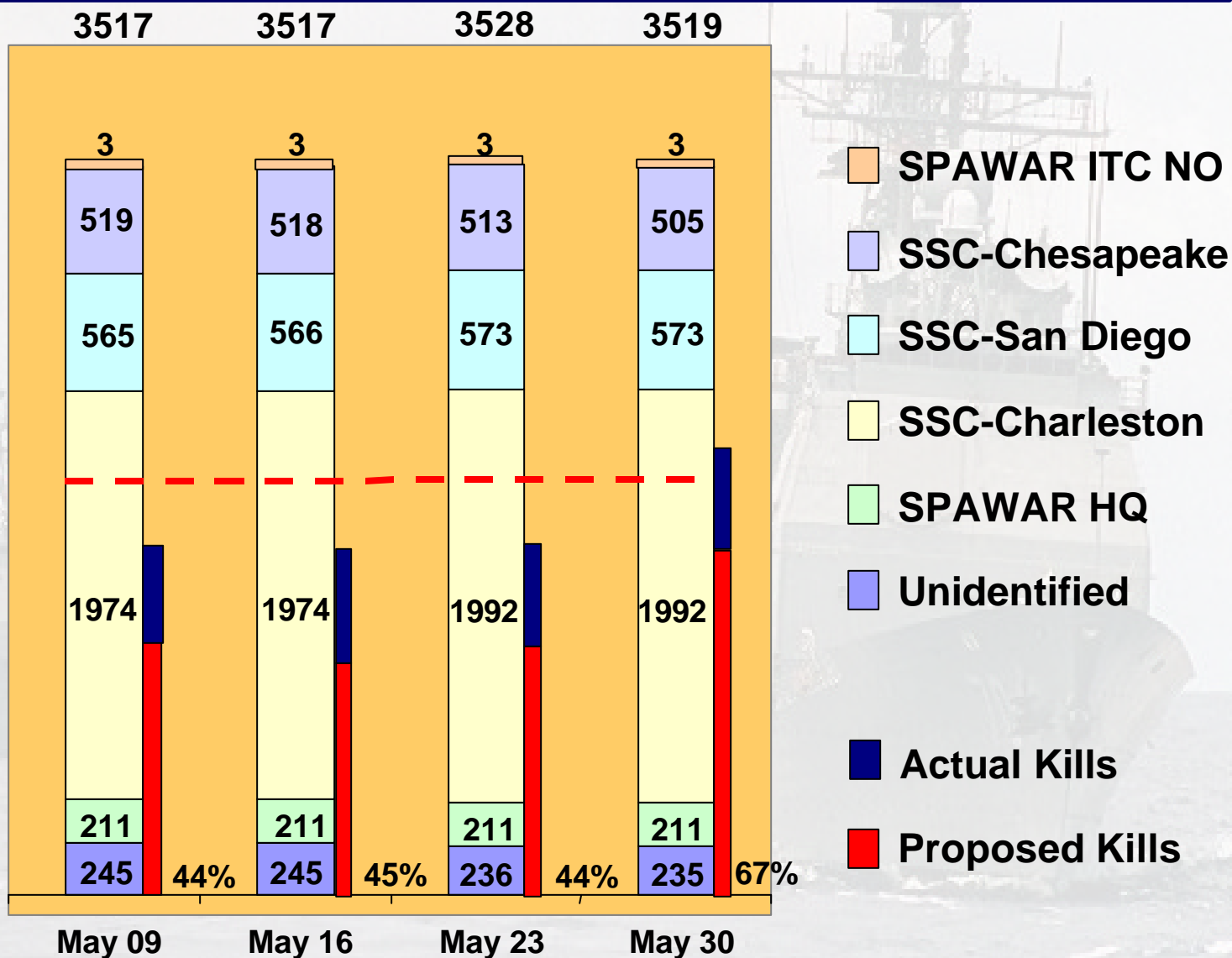
EDS
Raytheon
MCI WorldCom
Microsoft
Dell
Cisco
WAM!NET
Small Businesses

Mission:

To enable the sharing of information worldwide with those who need it, when they need it, and to enhance enterprise-wide work, training, and quality of life for every Marine, Sailor, and DON Civilian.



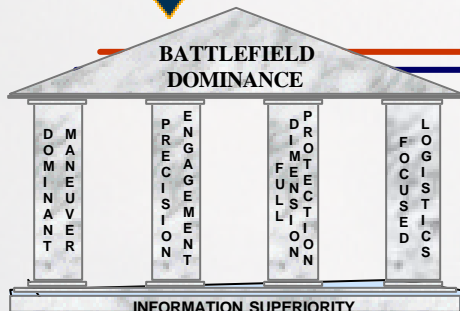
Corporate Application Metrics



SPAWAR



Information Technology for the Twenty First Century (IT-21)



IT21

Next Steps

Infrastructure Foundation:
SATCOM / MANs / LANs / PCs /
ATM Backbone / Information Assurance

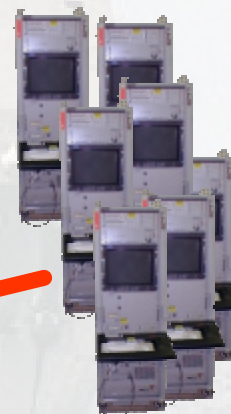
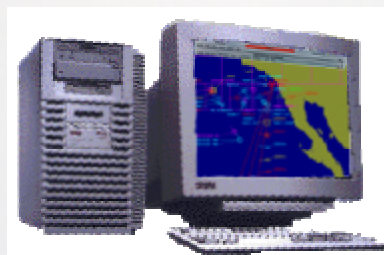
Integrate Tactical Data Links to common backbone &
Interface Weapons Control to common backbone

Integrate C4ISR Applications & Data

Integrate Combat Support Applications & Data



Pre Horizontal Integration Product Line Insertion





Horizontally Integrating the Product Line



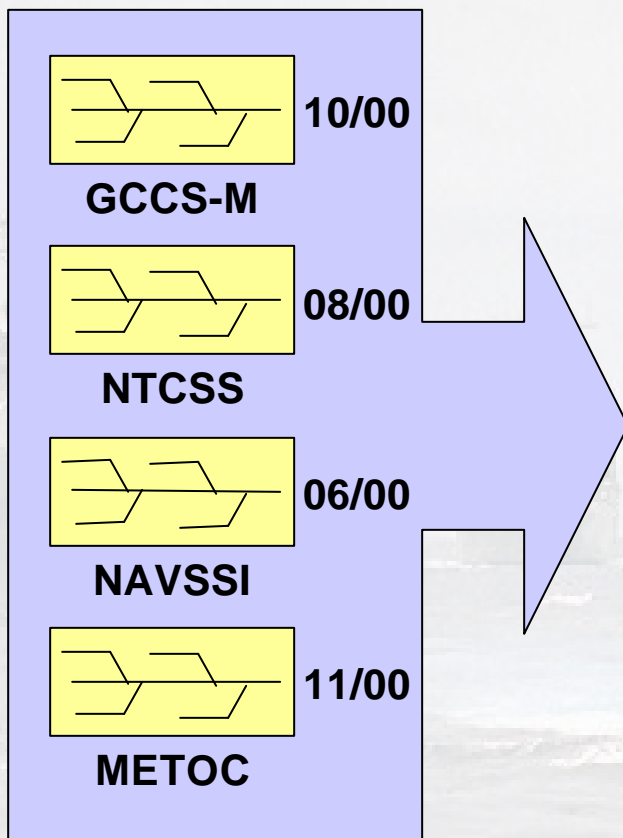


Why Horizontal Integration?

HI IS THE Next Step in SPAWAR Product Line Consolidation Effort

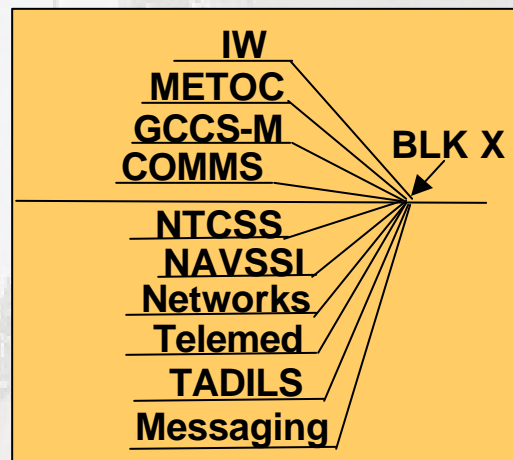
Today

Multiple Developments and Deliveries



Horizontal Integration

Single Integrated Development and Delivery



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Aligning to the Future

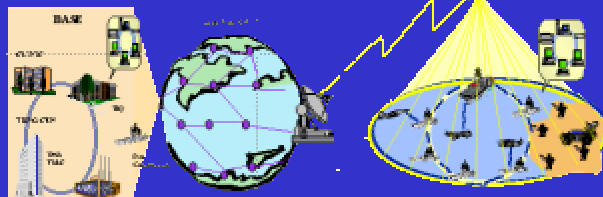
NMCI & IT21 provide basic building blocks for Knowledge Superiority

**Near-Term
Readiness**

Web Enabled Navy

**Current
Readiness**

NMCI



IT-21



Task Force Web

- **A VCNO task force established to Web Enable Navy applications by 2004**
 - **Through a defined process**
 - Application Migration
 - Application Integration
 - **A Navy wide horizontal portal for accessing applications and content ashore and afloat**



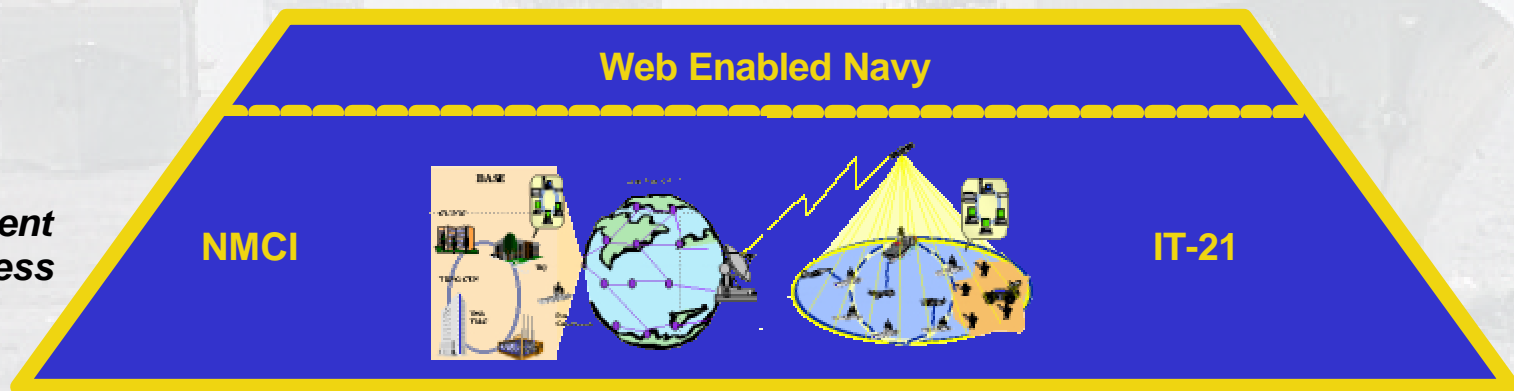
Aligning to the Future

**NMCI (ashore) & IT21 (afloat)
provide basic building blocks for
Knowledge Superiority.**

**Web Enabling Navy Content is the next
step.**

**Web-enabled Content will provide access to all
databases for ashore and afloat forces.**

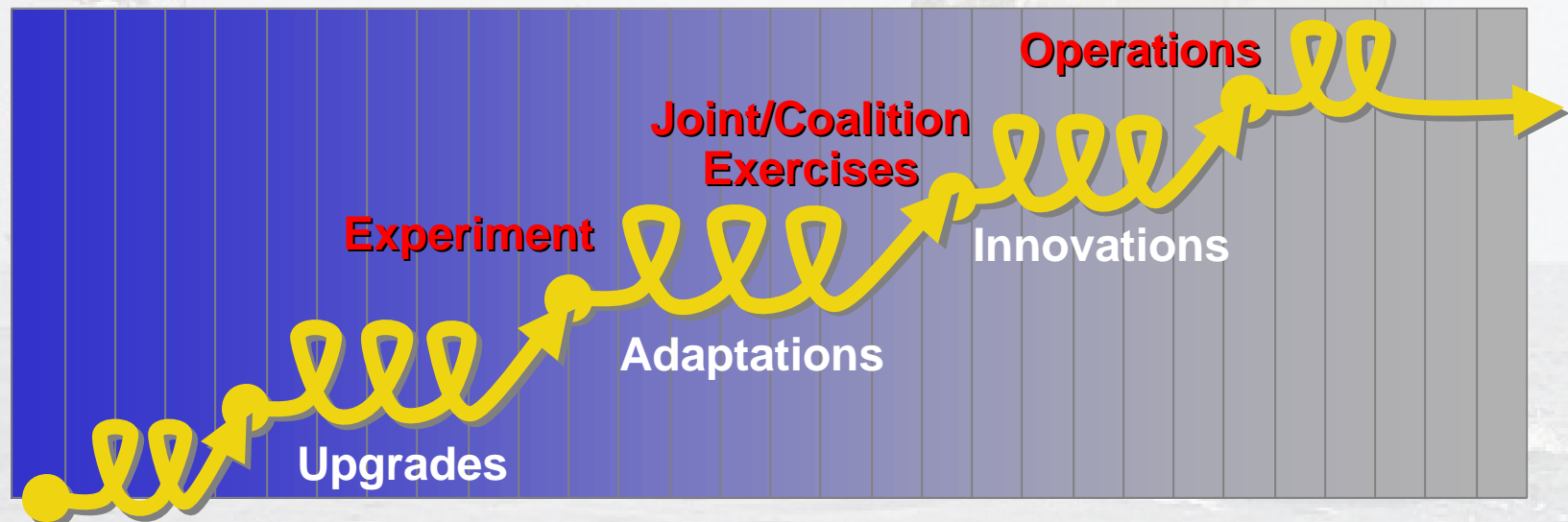
**Current
Readiness**



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Looking Forward...

- The D-30 Process has brought many benefits to the Fleet
- Now we need to address *speed-to-market* issues to complement the established process

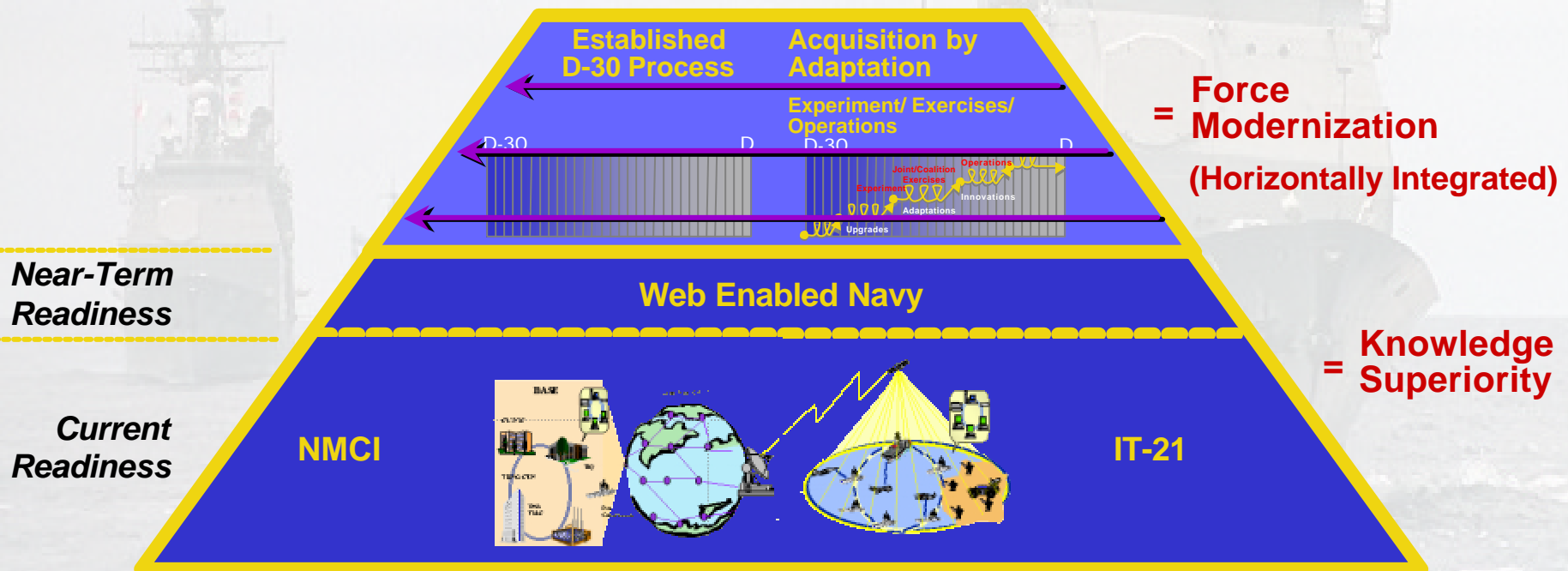




Aligning to the Future

Building upon a foundation of Knowledge Superiority...

Future C4ISR procurements built upon proven processes and innovation, such as "Acquisition by Adaptation" concepts Will provide a horizontally integrated modernized Naval battle force.



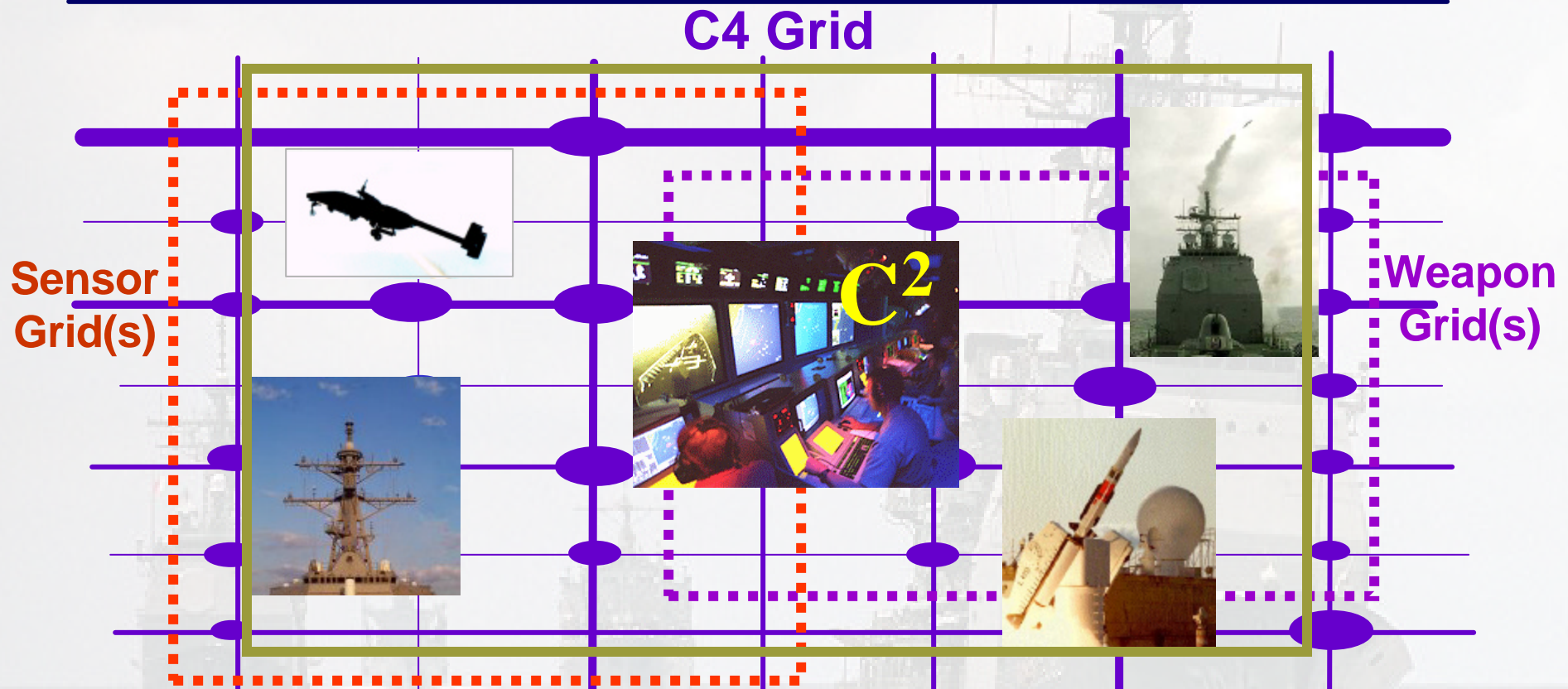


A Vision of the Future





FORCEnet ~ The Network-Centric Approach



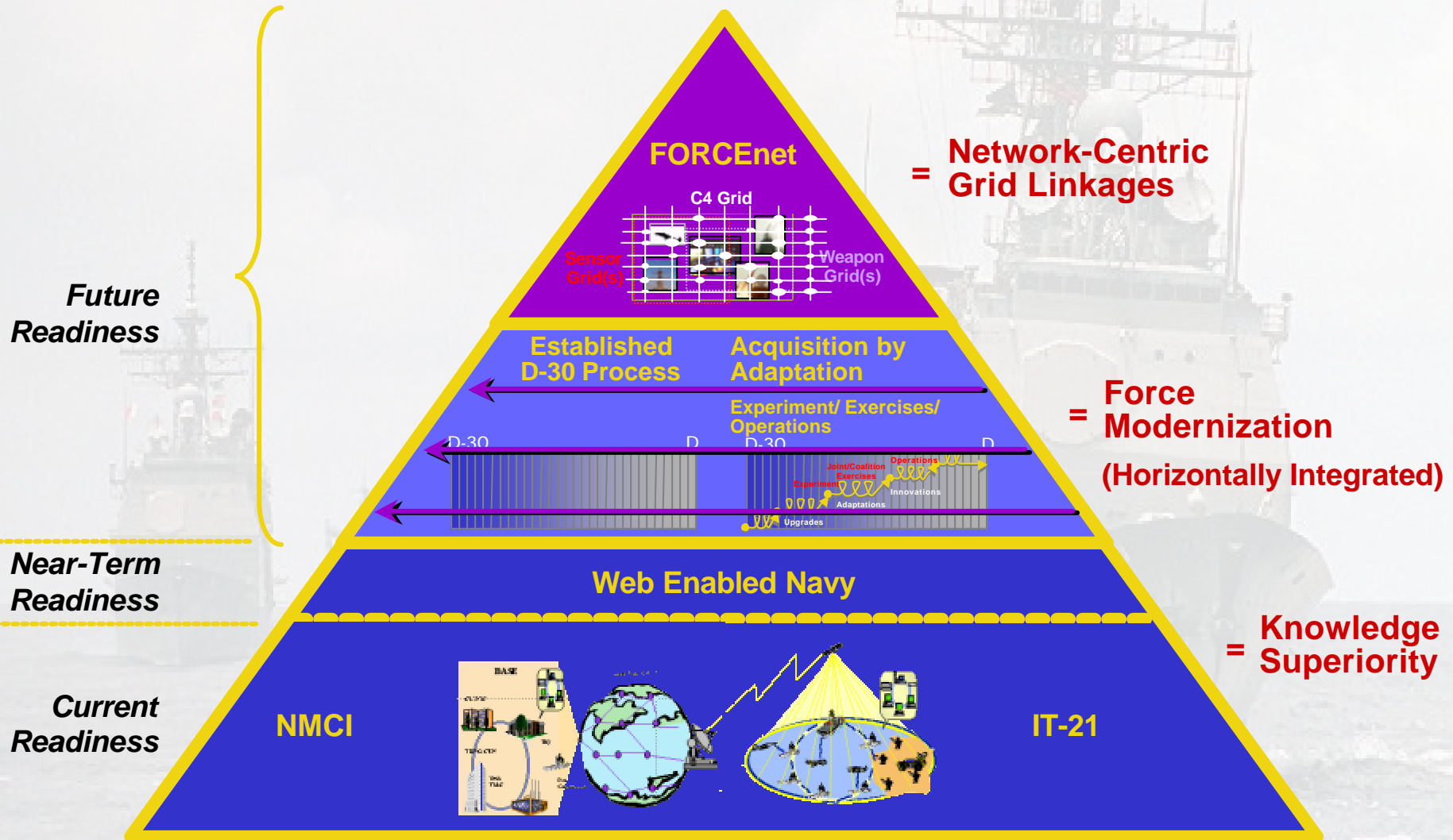
- Naval Piece of the Global Information Grid
- Delivers Superior Knowledge of the Adversary
- Multidomain, Tiered Network Architecture
- Creates a shared integrated Battlespace
- Integrated Knowledge Operations
- Tiered Weapons and Sensors
- Force Survivability, In-Stride Sustainment
- Fully Netted Maneuver Warfare

SPAWAR provides the C4ISR tools from seabed to space



Aligning to the Future

Full-Spectrum C4ISR Battlefield Dominance



In Summary--

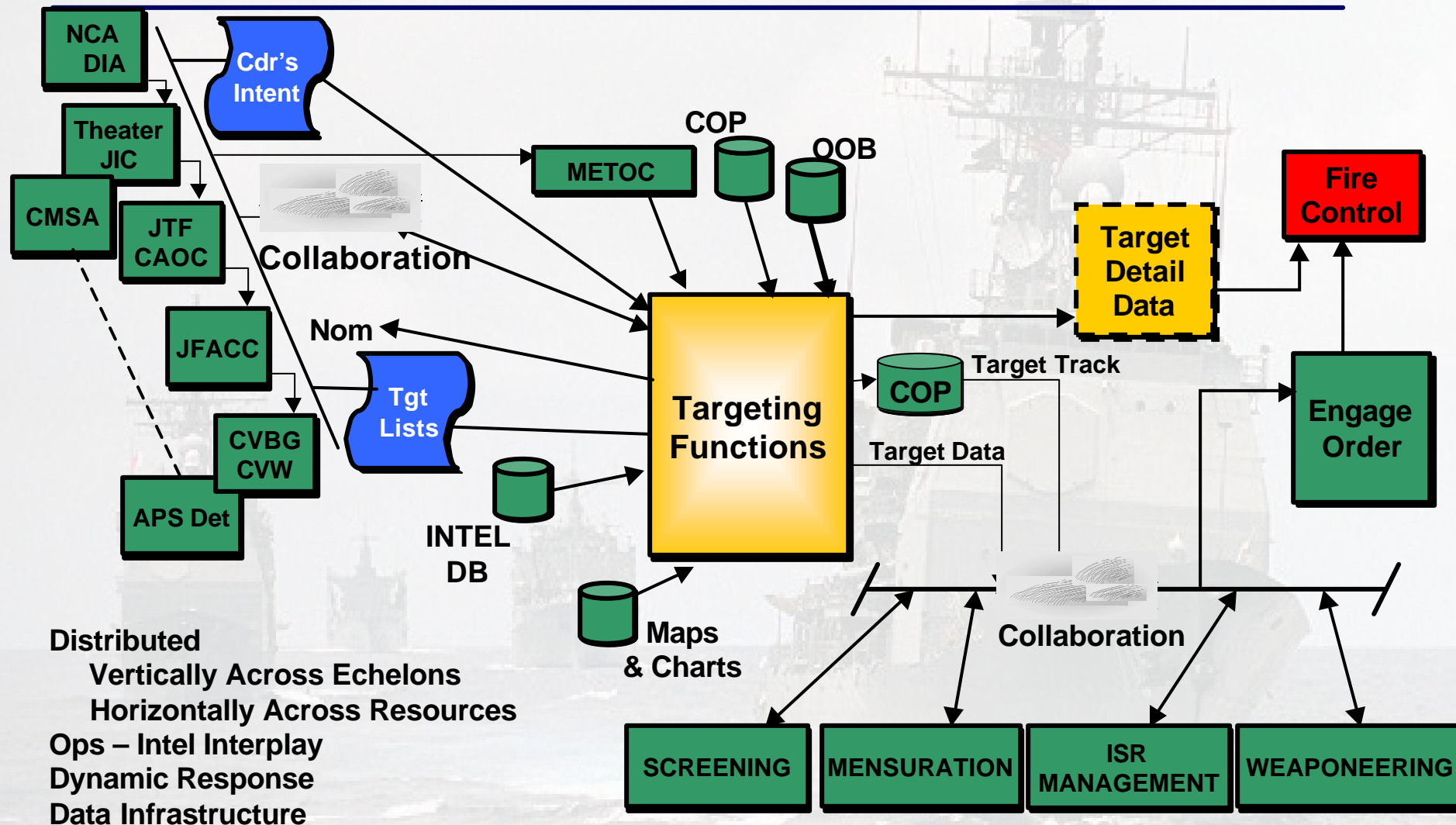
- Clausewitz, in *ON WAR*
“Knowledge must become capability”

But, in today’s age of increasing capabilities (in terms of data transmission, sensor inputs, etc.), it is important to remember that, in addition:

- “Capability must become knowledge”
- The challenges of Network Centric Warfare are significant but the rewards are greater

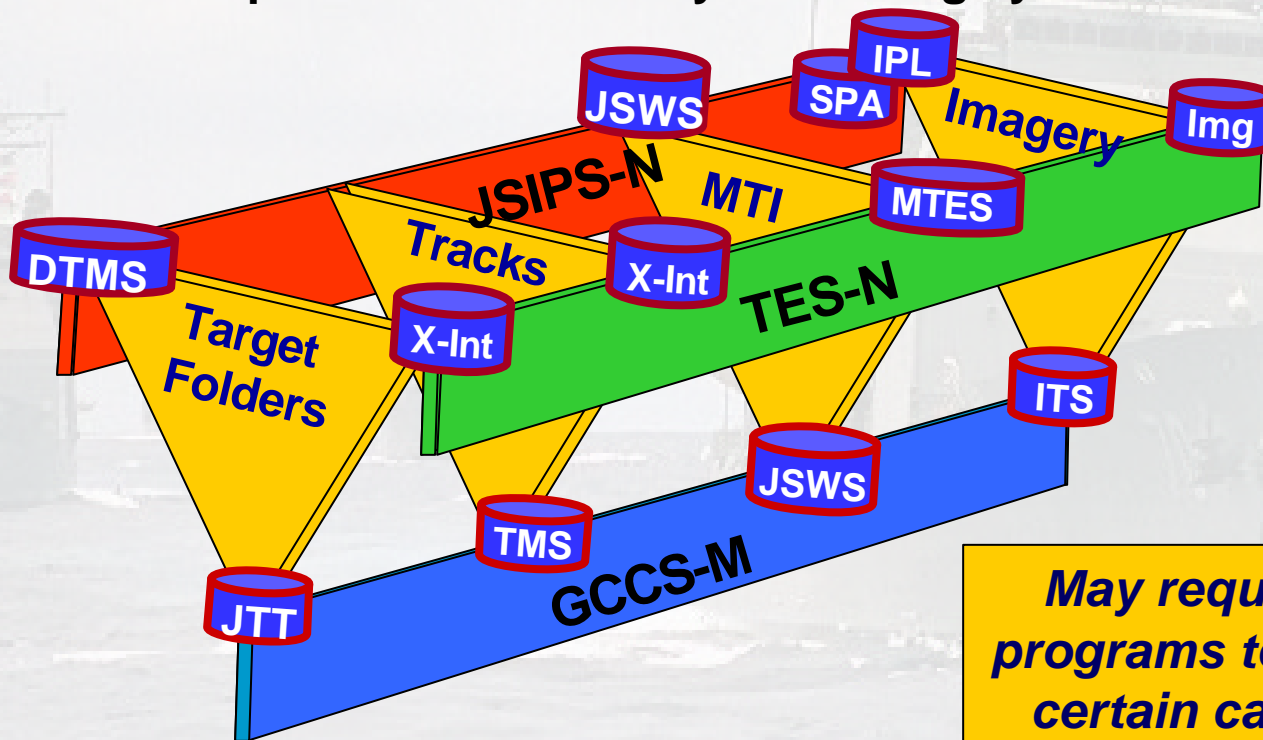


Time Critical Strike Operational Architecture



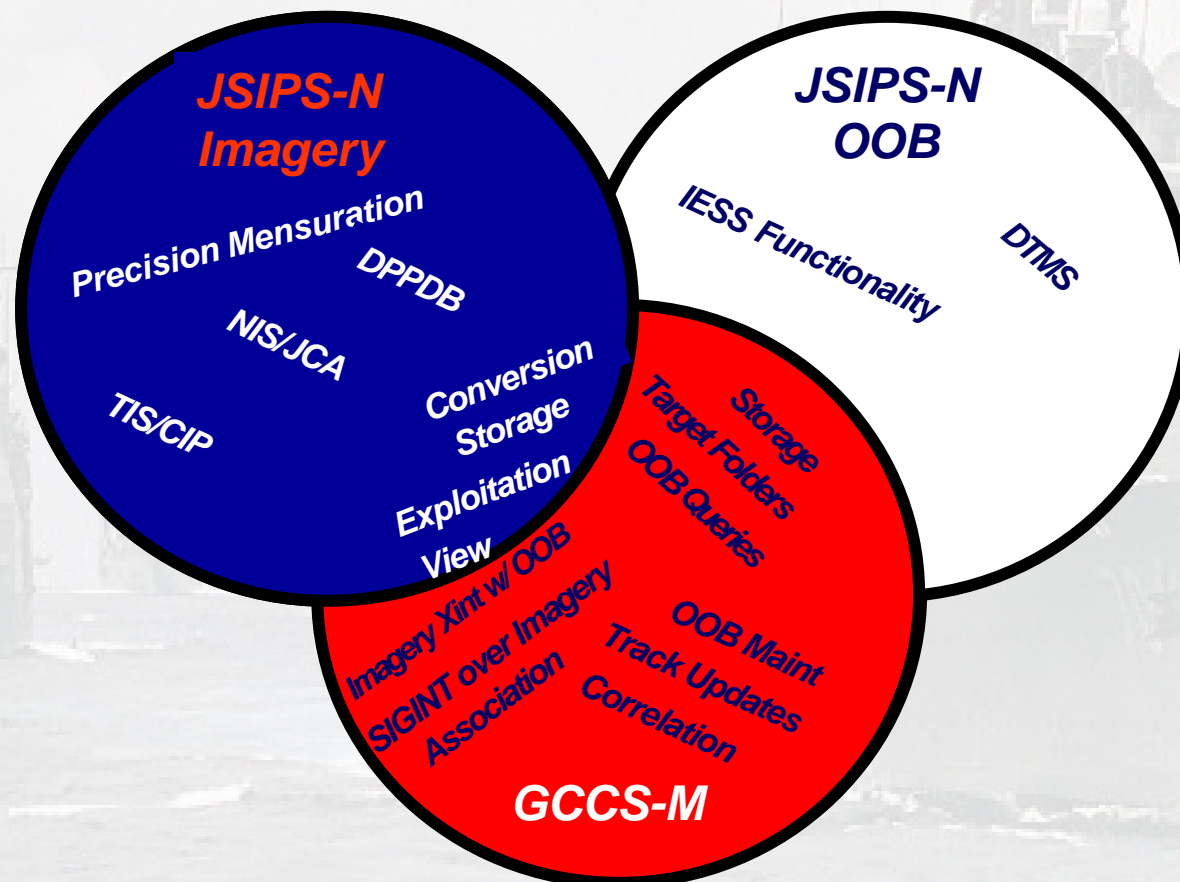
Integration Approaches

- **Unique capabilities**
 - Determine a way to introduce unique capabilities as a “bolt-on” to existing infrastructure (hardware and software)
- **Overlapping capabilities**
 - ID of cause and establishment of a path forward
 - Address perceived deficiency in existing system or start over?



Tradespace Example

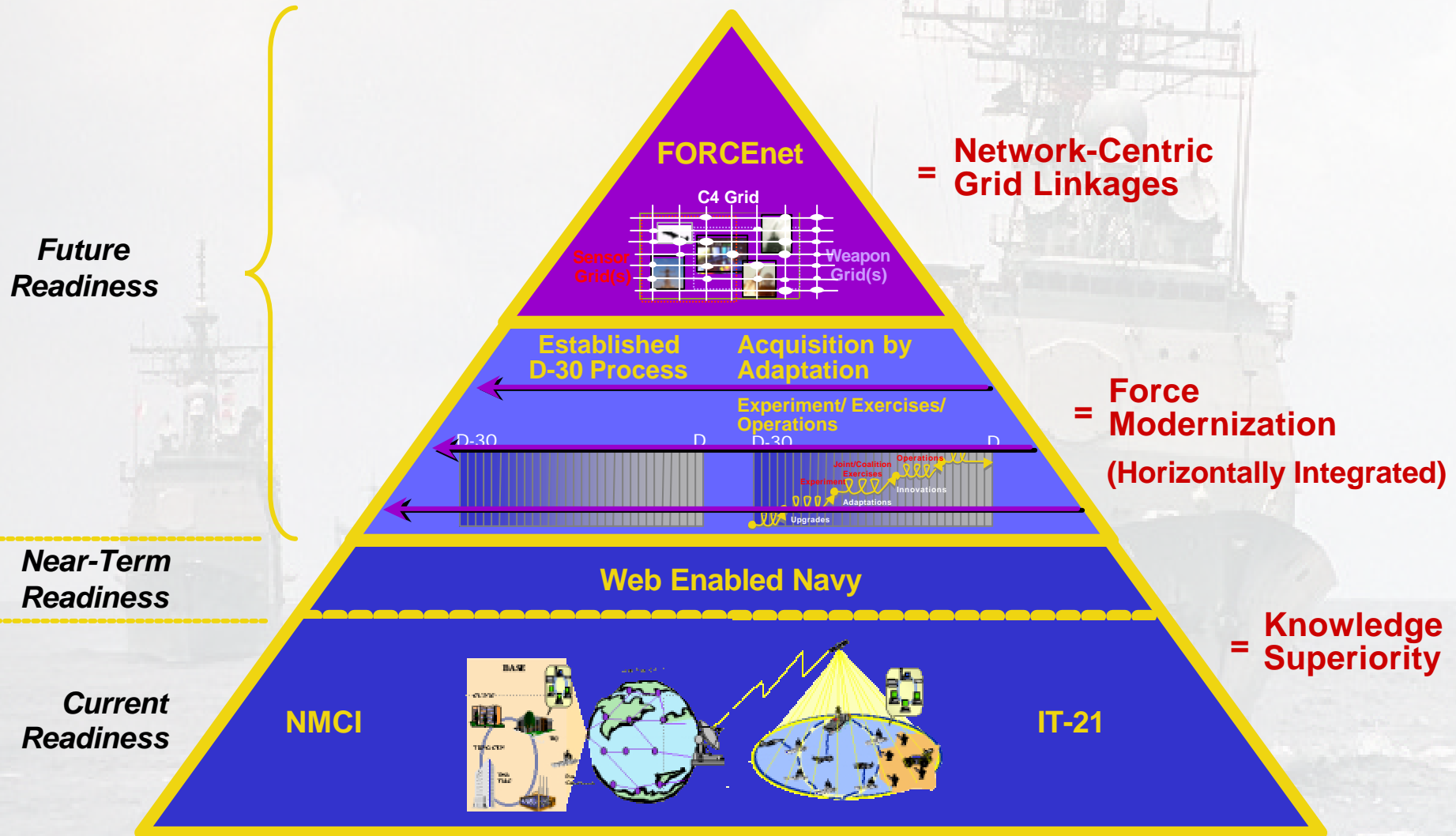
- Agreements have already been made between NAVAIR and SPAWAR on domain expertise and development





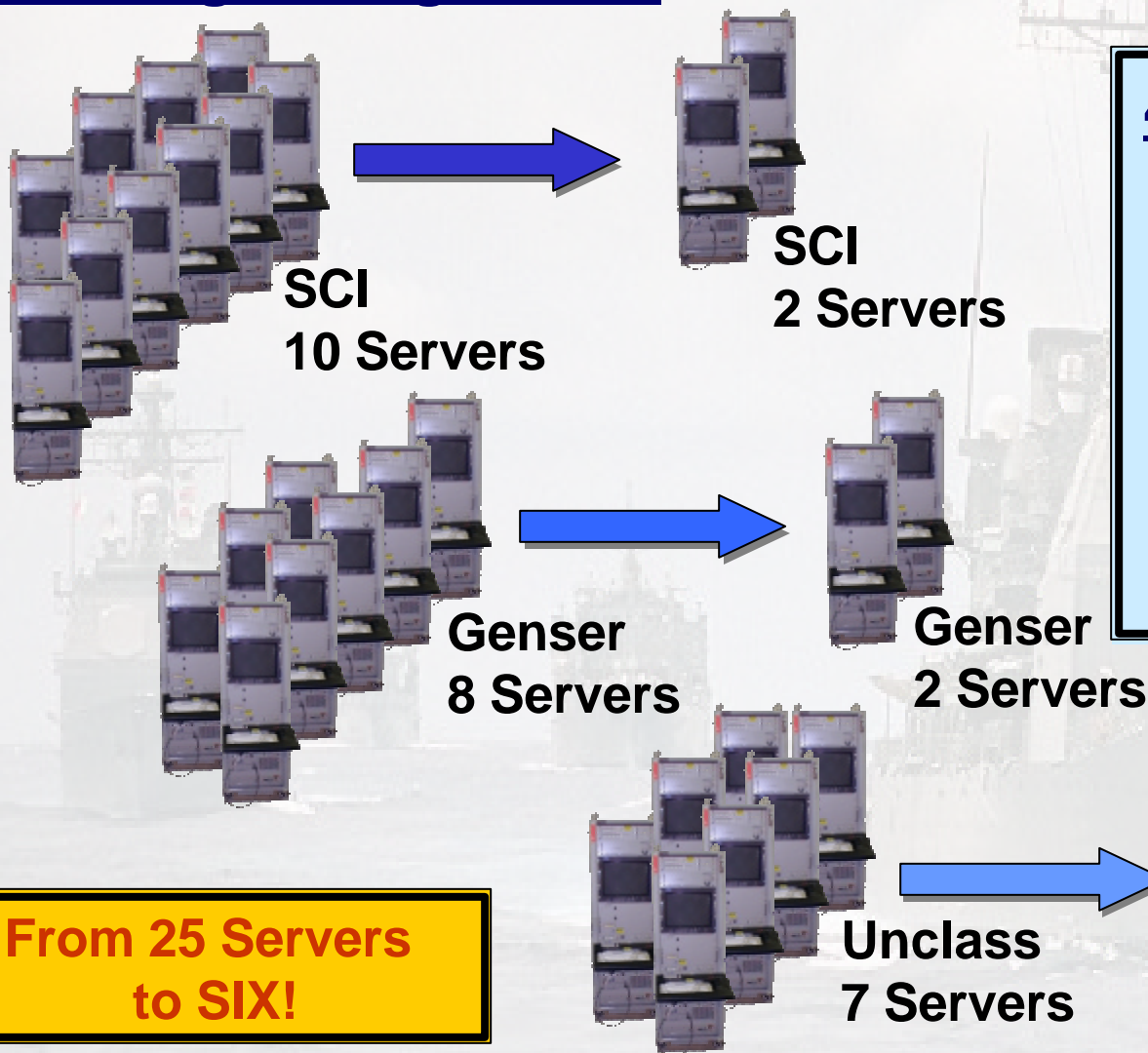
Aligning to the Future

Full-Spectrum C4ISR Battlefield Dominance



Some Benefits of HI

Existing Configuration



4.X Configuration

- Reduced Design, Integration & Install Cost
- Reduced ILS
- Reduced UNIX Server SYSADMIN Workload
- Increased SYSADMIN Automation

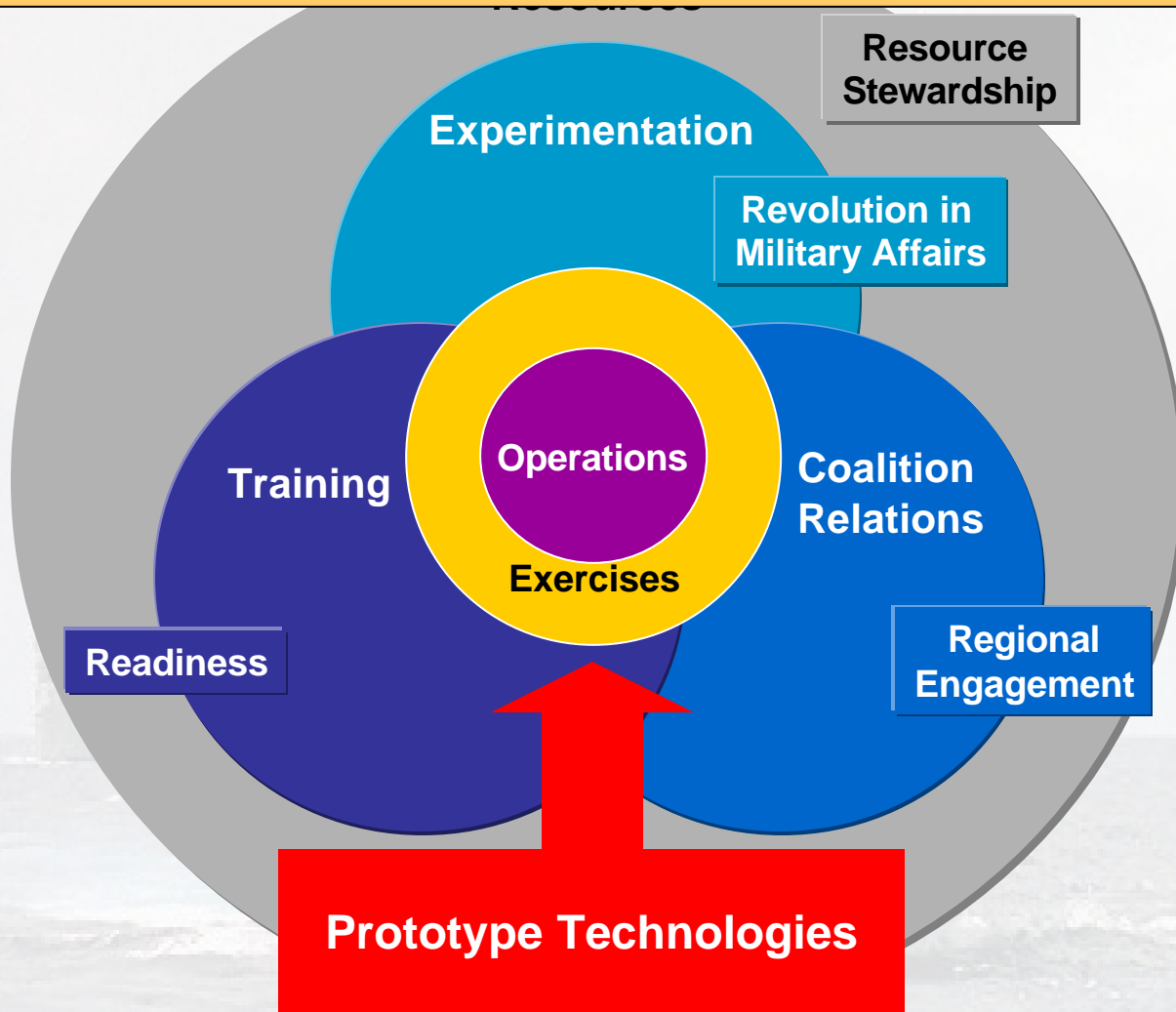
**From 25 Servers
to SIX!**



Embracing Admiral Blair's Concepts...

Need to take better advantage of rapidly evolving technologies.

- Acquisition by Adaptation strategies in LANT and PAC Fleets will require working within a new framework for technology transformation.
- There must be an "off switch" for prototype technologies in the Fleet to ensure uninterrupted system availability.



TADILS

Sensors

IA/IW
Directories
Networks
Port

Transport

Collaboration

METOC

Imagery & Video

Intel

Readiness

Sensor Data

Documentation and Training

Network Management

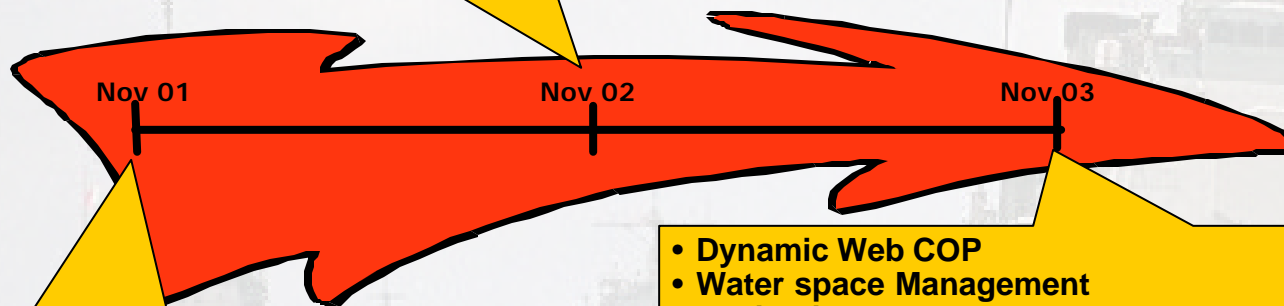


Web Enablement Plan

- Admin, Maintenance and Supply
- Readiness (OOMA and OIMA)
- Historical Readiness Data (CHF)
- Read/Write Messaging
- Imagery Management
- View ATOs (TBMCS)

Planning Factors *Overall timeline*

Providing services in focused operational areas vice stovepiped programs

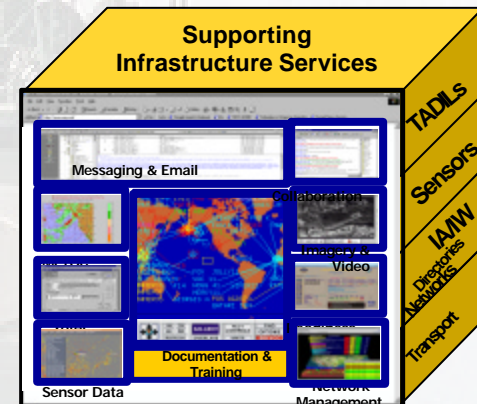


- Web COP
- Weather and METOC data display
- Personnel Data
- View Imagery and MIDB data
- On-line Digital Nautical Charts, Updates
- View Record Message Traffic
- Web email and and collaboration
- Employment Scheduling
- Access Cryptology Data
- ISR Management
- Navy/Marine Corps White Pages
- RF Management
- Corporate applications

- Dynamic Web COP
- Water space Management
- Navigation
- METOC analysis
- Imagery via Web COP
- Undersea Surveillance
- Account Management via web interface
- IA/IW

Initially will focus on integrating current or soon to be developed web enabled applications

Remaining candidate services will be implemented by 2004 IAW NAVADMIN 077/01





Aligning to the Future - Achieving Knowledge Superiority

**Current
Readiness**

***Future
Readiness***

INFRASTRUCTURE

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FORCEnet

NMCI

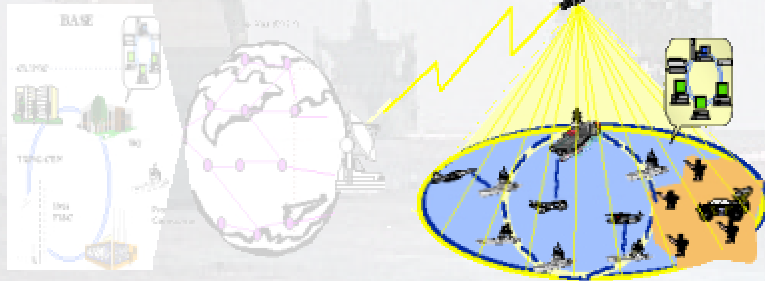
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IT-21

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**Web Enabled
Content**

III



HORIZONTAL INTEGRATION

Aligning to the Future - Achieving Knowledge Superiority

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***Future
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INFRASTRUCTURE

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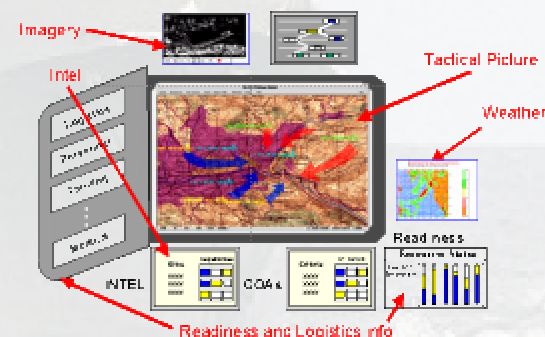
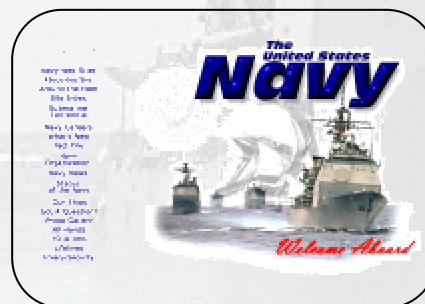
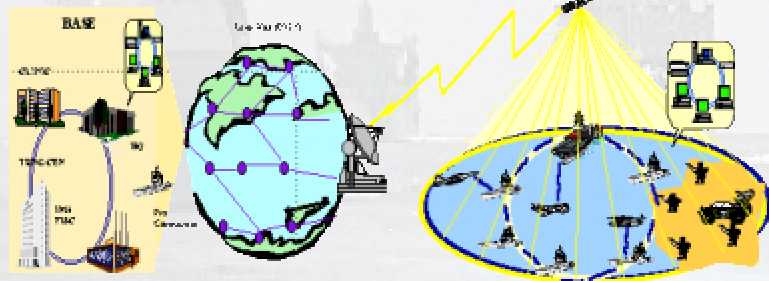
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FORCEnet



HORIZONTAL INTEGRATION